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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JAMA, ISAAK R

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,436	Applicant(s) ZHANG, WENLIN	
	Examiner ISAAK R. JAMA	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/2/06; 10/23/07; 12/08/08</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0066756 (Ahmavaara et al.) in view of U.S. Patent Application Publication Number 2004/0029580 (Haverinen et al.).
2. Regarding claim 1, 24 and 25 Ahmavaara teaches an optimized interaction method of a Wireless Local Area Network (WLAN) WLAN user terminal selecting an access mobile communication network, comprising the steps of: (a) after a wireless connection between the WLAN user terminal and a WLAN access network is established, the WLAN access network or the WLAN user terminal initiating an access authentication procedure, and the WLAN access network sending a user identity request message to the WLAN user terminal; **[Figure 1, abstract, paragraphs 0009, 0013, and 0031]**, after receiving the user identity request message **[Paragraph 0005]**, the WLAN user terminal determining network selection information to be currently carried according to a detecting result of whether the WLAN access network is changed or according to user selection information, and returning a message containing the determined network selection information to the WLAN access network **[Paragraph 0028]**; However Ahmavaara-756 does not explicitly disclose the steps of, the WLAN

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access network judging whether the network selection information in the received message indicates one of the mobile communication operation networks to which the WLAN access network is currently connected; if so, sending an access authentication request from the WLAN user terminal to a mobile communication operation network indicated in the network selection information, otherwise, the network sending a notification signaling to the WLAN user terminal, the WLAN user terminal completing subsequent operations according to contents in the notification signaling. Haverinen discloses that after the WLAN access network judging whether the network selection information in the received message indicates one of the mobile communication operation networks to which the WLAN access network is currently connected; if so, sending an access authentication request from the WLAN user terminal to a mobile communication operation network indicated in the network selection information, otherwise, the network sending a notification signaling to the WLAN user terminal, the WLAN user terminal completing subsequent operations according to contents in the notification signaling **[Figures 1 and 6, and paragraphs 0051-0053; i.e.]**. Therefore it would have obvious to a person of ordinary skill in the art, at the time the invention was made, to use an authentication signal as disclosed by Haverinen in the system of Ahmavaara-756 to improve the selection of various services.

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3. Regarding claims 2, 17 and 20, Ahmavaara further teaches that the mobile communication operation network with the highest access priority is a home network of the current WLAN user terminal **[Paragraph 0026; i.e. the user equipment always tries first to connect directly to the home network which is Home PLMN 4 which includes the user equipment's home location register (HLR)]**.

4. Regarding claim 3, Ahmavaara further teaches that whether the WLAN access network is changed is judged according to WLAN access identification information, wherein the step of determining the network selection information comprises the steps of: the WLAN user terminal detecting identification information of the WLAN where the WLAN user terminal is currently located, judging whether WLAN access identification information and previous network selection information is stored in itself, if so, judging whether the currently detected WLAN access identification information is the same as that stored in itself; otherwise, taking the previous network selection information stored in itself as the network selection information to be currently carried and ending the current flow; otherwise, taking the information of the mobile communication operation network with the preset highest access priority as network selection information to be currently carried **[Paragraph 0026]**.

5. Regarding claims 8 and 13, Ahmavaara further teaches that the stored previous network selection information is a mobile communication operation network list **[Abstract; i.e. the method includes storing the identification (SSID) of the at least one other network (visited PLMNs 1-3 and home PLMNs 4 and 5) in the user equipment]**.

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6. Regarding claim 18, Ahmavaara further teaches that the WLAN access identification information is Service Set Identifier (SSID) or Access Point Identifier (APID) or MAC address of access point **[Paragraph 0010]**.
7. Regarding claim 21, Ahmavaara further teaches that the network selection information is placed in a user identification field with Network Access Identifier (NAI) format **[Paragraph 0013]**.
8. Regarding 22, 28 and 29, Ahmavaara further teaches that the WLAN user terminal automatically selects information of mobile communication operation networks advertised by the network according to preset parameters **[Paragraph 0078]**.
9. Regarding claim 23, Ahmavaara further teaches that the network waiting for a response message from the WLAN user terminal after sending the notification signaling, and actively sending a selection result request to the WLAN user terminal if not receiving a response after a period of time **[Paragraph 0015]**.
10. Regarding claim 26, Ahmavaara further teaches that the network waiting for a response message from the WLAN user terminal after sending the notification signaling, and actively advertising information of mobile communication operation networks to the WLAN user terminal if not receiving a response after a period of time **[Paragraph 0065]**.

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11. Regarding claim 27, Ahmavaara further teaches that the network ending the current authentication after sending the notification signaling, the WLAN user terminal actively initiating a network information download procedure if needing to download the network information **[Paragraph 0095; i.e. if the UE includes the selected SSID with EAP signaling between the UE and the home network, the home network has the ability to check that the WLAN AZ and the roaming partner have followed the UEs network selection and not routed the connection to a network e.g. giving highest roaming fee for the roaming partner. The home network may compare the PLMN ID derived from the SSID inserted by the UE to the origin of the received authentication request and if there is mismatch, the WLAN Access network or roaming partner is determined to not be behaving correctly].**

12. Claims 4, 5, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0066756 (Ahmavaara et al.) in view of U.S. Patent Application Publication Number 2004/0029580 (Haverinen et al.), and further in view of U.S. Patent Application Publication Number 2003/0176188 (O'Neill).

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13. Regarding claims 4, 5, 16 and 19, and as applied to claim 3 above, Ahmavaara-756 as modified by Haverinen does not specifically disclose the claimed limitation.

O'Neill discloses that after being successfully accessed to the mobile communication operation network indicated in the network selection information, the current WLAN user terminal updating the WLAN access identification information stored in itself with the currently detected WLAN access identification information, judging whether information of the current successfully accessed mobile communication operation network is the same as the previous network selection information stored in itself; if they are different, updating the previous network selection information stored in itself with information of the current successfully accessed mobile communication operation network, otherwise, not updating the previous network selection information stored in itself **[Figure 4 and paragraph 0041]**. Therefore it would have obvious to a person of ordinary skill in the art, at the time the invention was made, to have the latest access information updated in the user equipment as disclosed by O'Neill in the system of Haverinen in order to adequately manage the mobility of the user equipment.

14. Claims 6, 7, 10-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0066756 (Ahmavaara et al.) in view of U.S. Patent Application Publication Number 2004/0029580 (Haverinen et al.), and further in view of U.S. Patent Application Publication Number 2003/0176188 (O'Neill) and further in view of U.S. Patent Application Publication Number 2004/0103282 (Meier et al.).

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15. Regarding claims 6, 7, 11, 12 and 15, and as applied to claim 4 above, Ahmavaara-756 as modified by Haverinen and O'Neill does not specifically disclose that after the stored network selection information is updated, setting an effective life span for the current stored previous network selection information, the effective life span being used to set the stored content as invalid after timeout. Meier discloses that the Registration Reply Lifetime field contains a registration lifetime value, in minutes. An AP must generate an update Registration Request, for a MN, before the registration lifetime expires **[Paragraph 1059]**. In addition, Meier teaches that each CM (control domain) or AP must maintain a Registration Table that contains a Descendant Registration Record (DRR) for each descendant node (MN, AP, or CM) in its sub tree. A Registration Table can, optionally, include Inbound Registration Records (IRR) for nodes that are not in the sub tree of the respective AP or CM. Registration Records are updated by Registration, Deregistration, and Detach messages, and a Registration Record is aged and discarded if it is not refreshed within the registration Lifetime **[Paragraph 1096]**. Furthermore, Meier teaches that each CM must maintain an internal Instance Age that contains the elapsed time, in seconds, since the node last transitioned to the Attached state. The Instance Age is initialized to 0 and is reset to 0 each time the node initially registers with a new parent CM **[Paragraph 0361]**. Therefore it would have obvious to a person of ordinary skill in the art, at the time the invention was made, to have expiration of registration as disclosed by Meier in the combined system of Ahmavaara, Haverinen and O'Neill in order to reduce network congestion.

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16. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0066756 (Ahmavaara et al.) in view of U.S. Patent Application Publication Number 2004/0029580 (Haverinen et al.), and further in view of U.S. Patent Application Publication Number 2003/0176188 (O'Neill) and further in view of U.S. Patent Application Publication Number 2004/0103282 (Meier et al.) and further in view of U.S. Patent Number 7,359,718 (Tao et al.).

17. Regarding claims 9 and 14, Ahmavaara, Haverinen, O'Neill and Meier has been discussed above. But the combination of Ahmavaara, Haverinen, O'Neill and Meier fail to teach that the step of updating the previous network selection information stored in it further comprises the steps of: judging whether the list space is full, if so, deleting the oldest network selection information record in the list and adding new network selection information record; otherwise, directly adding new network selection information record. Tao teaches a location determination and location tracking in wireless networks **[Title]**, whereby the eight nearest neighboring points (in either signal space or physical space) of each estimated individual location for each instant in time, i.e., the nine best guesses of the station's location for each time instance, may be chosen **[Column 13, lines 12-15]**, and that each time the trellis tree (the matrix) is updated with the most nine recent neighbors (and the deletion of the oldest set of neighbors) **[Column 13, lines 27-29]**. Therefore, it would have obvious to a person of ordinary skill in the art, at the time the invention was made, to have removal of the oldest addresses as disclosed by Tao in the combined system of Ahmavaara, Haverinen, O'Neill and Meier in order to make use of the available memory space.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application Publication Number 2005/0272465 (Ahmavaara et al.) teaches a method and system for providing access via a first network to a service of a second network. U.S. Patent Number 7,068,610 (Unruh) teaches a system and method for reliable communications over multiple packet RF networks. U.S. Patent Application Publication Number 2005/0254469 (Verma et al.) teaches a wireless local area network (WLAN) as a public land mobile network for WLAN/telecommunication system interworking. U.S. Patent Number 7,028,097 (Bard) teaches a wireless LAN with dynamic channel access management. U.S. Patent Number 7,324,478 (Park et al.) teaches an apparatus and method for deciding access system based on WLAN signal strength in WLAN/mobile network interworking system, and mobile terminal thereof.

/Lester Kincaid/

Supervisory Patent Examiner, Art Unit 2617